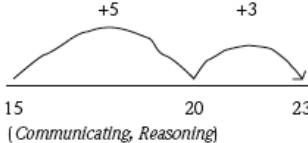


Lesson Plan	English	Whole Class		
Class: 1/2D - Year 1	Topic: Maths: Vol & Capacity- A	Week: 2	Date: 4 May 2009	
Anticipated Outcomes: NS1.2 Uses a range of mental strategies and informal recording methods for addition and subtraction involving one- and twodigit numbers				
What do I want the students to know: Basic Addition and subtraction using the jump strategy (as recorded on an empty number line)				
Activity/purpose/class structure	Indicators	Resources	Assessment	IOT elements
<p>1. Introduction & revision of tens and ones Draw above students heads along the line:</p> <ul style="list-style-type: none">2 students make 12 (with their fingers out the front). <i>Chorally count 10...11..12</i>3 students make 26. <i>Choral: 10, 20, 26</i> <p>How many more are needed to make 30 (4 fingers) - all 3 students hold up 10 <i>Let's check: 10, 20, 30</i></p> <ul style="list-style-type: none">Can can someone build on the 30 to make 34? <i>Let's check: 10, 20, 30, 34</i> <p>• Ask another group of students to display 20 fingers.</p> <ul style="list-style-type: none">- Ask the class how many fingers there are altogether (54). Ask how they worked out the answer. If a student says, "I put the tens together", ask the students who are showing the 20 to join the tens in the 34 <p>• ADDITION. Choose New students</p> <p>Ask students to form groups in which both numbers are not multiples of ten, such as 23 and 15. Explain why it's good to use this imagine counting 23, 24, 25, 26, 27 etc. Let's use a trick. It's called the jump strategy.</p> <p>A student may say, "I started from 23 and went up like this: 23, 33. Then I added the five. That's 38" (This is an explanation of the jump strategy.) Ask the students who are displaying the 25 to do the wave as the class counts 23, 33, 38.</p> <p>A student who uses a more sophisticated version of the jump strategy may say, "I started at 23 and added on 10. That's 33. Then I added the 5. That's 38". Ask the students who are showing the two tens in the 25 to raise their hands when the student who is explaining says, "I added on 20".</p> <p>Another student may say, "I put the tens together. That's 20 + 10 = 30. Then I put the ones together. That's 3 + 5 = 8. So it's 30 + 8. That's 38". This is an explanation of the split method. Ask the students who are displaying the fingers to move in accordance with the student's explanation</p>	<ul style="list-style-type: none">explain or demonstrate how an answer was obtained for addition and subtraction problems eg showing how the answer to 15 + 8 was obtained using a jump strategy on an empty number line <div></div> <ul style="list-style-type: none">			<p>1.1.2 Demonstrate research-based knowledge of the pedagogies of the content/ discipline(s) taught.</p> <p>3.1.2 Plan and implement coherent lessons and lesson sequences that are designed to engage students and address learning outcomes.</p> <p>3.1.4 Demonstrate knowledge of a range of appropriate and engaging resources and materials to support students' learning.</p>

<div><div>• SUBTRACTION</div><div>To demonstrate that subtraction problems can be solved using similar strategies to those used for addition, ask some students to display 31 fingers.</div><div>Ask students how they could solve $31 - 12$. A student may say, "Just take off the 11".</div><div>(The two students on the audience's right drop their hands.) "That's 20. And then you need to take off one more, so it's 19".</div><div>4. It is possible to use groupings of fingers like these to show problems like $48 + 37$. In fact, the compensation method may even be demonstrated in this way e.g. add 2 fingers to the 48 and compensate by removing them from the 37. The question then becomes $50 + 35$, which is easier to solve because 50 is a multiple of ten.</div><div>2. Small Groups - use number lines with pegs</div><div>Possible Discussion Questions:</div><div><div>• Can we see any ones on our number line? Can we see any tens?</div><div>• How can we count by tens using the peg? Can you go backwards?</div><div>• Show me how can you count from 20 to 60? How can you count from 70 to 40? (move the peg)</div><div>• What number is this? 43</div><div>• Can you count from 43 to 47? 56?</div><div>• Can you count from 43 to 38? 33?</div><div>• Where is the number 12? 21? 42?</div><div>• Where is the number 19? 38? 79?</div><div>• What number is this? (Teacher chooses 23)</div><div>• How could we find 63? 13?</div></div><div>Students write out their jumps in their maths book using a number line</div><div>Ask students to use an empty number line in their books to draw the following addition and subtraction problems</div><div><div>Yr 2</div><div>23 + 34</div><div>43 + 25</div><div>41 - 12</div><div>68 + 25</div></div><div><div>Yr 1</div><div>15 + 10, 15+ 13,</div></div></div>				
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0

100

0

10

20

30

40

50

60

70

80

90

100

0

100

0

10

20

30

40

50

60

70

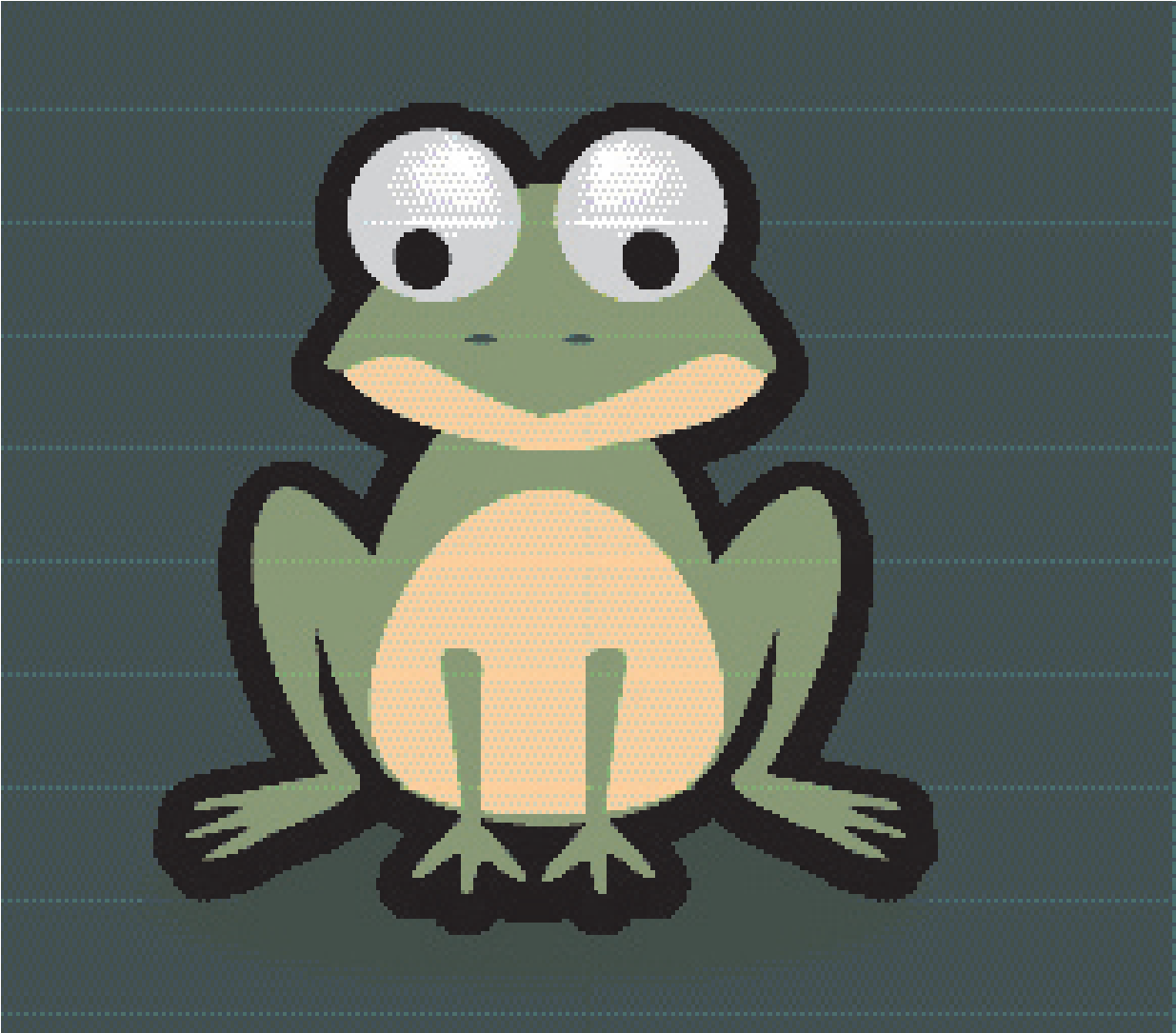
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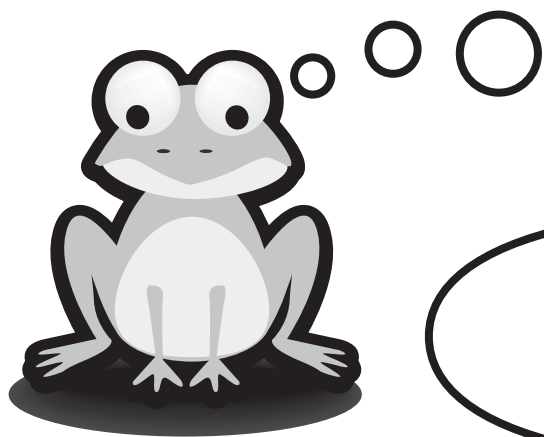
90

100

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70

71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
									0



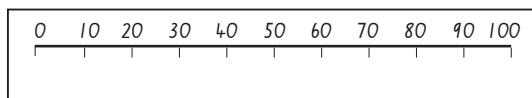


Jump Strategy

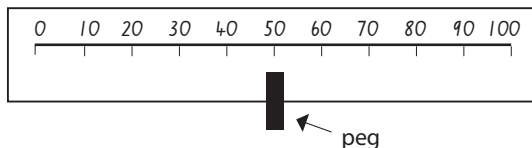
*Use your number line and peg to answer these questions:

Question 1.

- Put the number line with the numbers facing up:



- Put your peg at number 50.



- Leave the peg and flip the card over to the empty number line.

Mark with a dot where the peg sits on the line below:



Question 2.

- Use the number line (with numbers facing up) to find the following numbers.

Draw where you see the peg when you flip it over the other side:

Number 26?



Number 87



Question 3.

$$20 + 10 = 30$$

- Place your peg on 20.
- Add 10 to 20 by jumping your peg forward.

This problem would be recorded like below:



Now it's your turn!

$$15 + 10 = \underline{\quad}$$

- Place your peg on 15.
- Add 10 to 15 by jumping your peg forwards 10 (flip your card to the empty number line to see how it works).

Draw it below:

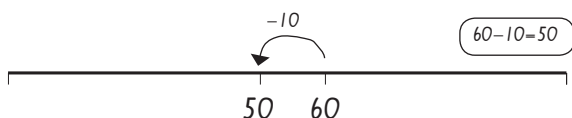


Question 4.

$$60 - 10 = 50$$

- Place your peg on 60.
- Subtract 10 from 60 by jumping your peg back.

This problem would be recorded like below:



Now it's your turn!

$$75 - 10 = \underline{\quad}$$

- Place your peg on 15.
- Subtract 10 from 75 by jumping your peg backwards 10 (flip your card to the empty number line to see how it works).

Draw it below:



Question 5.

a) $37 + 13 = \underline{\quad}$

- Place your peg on 36.
- Show on the number line below, how you can answer this problem (hint: break the 13 into jumps of 10 + 3)



b) $37 + 16 = \underline{\quad}$



c) $37 - 16 = \underline{\quad}$



A challenge!

Show how you would do the following addition and subtraction problems on an empty number line, in your maths book:

$$48 + 21 =$$

$$24 + 39 =$$

$$99 - 17 =$$

$$75 - 26 =$$

$$54 + \underline{\quad} = 100$$

